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10/522,451

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Erkki Laiho

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EXAMINER

CHIN, HUI H

ART UNIT

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1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/522,451 | Applicant(s) LAIHO ET AL. | |
| | Examiner HUI CHIN | Art Unit 1796 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in reference to the Amendment, filed on 8/27/2009.

No claims have been amended. Claims 1-43 are now pending.

Claim Objection

1. Claim 35 is objected to because of the following informalities:

Claim 32, line 9, " $R_n\text{MECL}_{3-n}$ " is suggested to be changed to -- $(R_n\text{MeCl}_{3-n})_m$ --.

Appropriate corrections are required.

Double Patenting

2. A rejection based on double patenting has been withdrawn since copending Application No. 11/793,018 has amended the claims and are different from the instant claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1-2, 4, 7-9, 12-15, 17-19, 31, 37 and 41-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Ahlstrand (US 2003/0149162).

Ahlstrand discloses a polymer composition comprising an ethylene homopolymer or an ethylene alpha-olefin copolymer, wherein the polymer is a bimodal polymer produced in a multistage process comprising i) 30-70 wt. % of a low molecular weight ethylene polymer and ii) 70-30 wt. % of a high molecular weight ethylene polymer or copolymer and a nucleating agent, wherein the low molecular weight polymer has a weight average molecular weight of about 5,000 – 50,000 g/mol, and the bimodal polymer has a density of 930-965 kg/m³, and the composition may contain talc (claims 1, 5, 7, [0019], [0029]).

The limitations of claims 2 and 4 can be found in Ahlstrand at claim 11, where it discloses the low molecular weight ethylene polymer having a weight average molecular weight of about 5,000-50,000 g/mol.

The limitations of claim 7 can be found in Ahlstrand at abstract, where it discloses the bimodal polymer.

The limitations of claim 8 can be found in Ahlstrand at claim 14, where it discloses the high molecular weight ethylene polymer having a weight average molecular weight of between 300,000 and 1,000,000 g/mol.

The limitations of claim 9 can be found in Ahlstrand at claim 1 and abstract, where it discloses the HDPE.

Claims 12-14 are inherent properties.

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The limitations of claim 15 can be found in Ahlstrand at claim 10, where it discloses the polydispersity between 20 and 40.

The limitations of claim 17 can be found in Ahlstrand at [0029], where it discloses the talc.

The limitations of claim 18 can be found in Ahlstrand at [0030], where it discloses the 100-2000 ppm of antioxidant.

The limitations of claim 19 can be found in Ahlstrand at claim 1, where it discloses the multistage process.

The limitations of claims 31, 37 and 41-43 can be found in Ahlstrand at [0022], where it discloses the multi-stage process.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162) as applied to claims 1-2, 4, 7-9, 12-15, 17-19, 31, 37 and 41-43, in view of Lalho et al. (US 2006/0142495).

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The disclosure of Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific polyolefin to be used.

Lalho et al. disclose a polypropylene composition comprising polypropylene, low density polyethylene, and a bimodal high density polyethylene to provide a composition with improved processability particularly suitable for extrusion coating processes (claim 1, abstract, Examples). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the specific polyolefin in the composition with the expected success.

7. Claims 5, 22-23, and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162) as applied to claims 1-2, 4, 7-9, 12-15, 17-19, 31, 37 and 41-43, in view of Sakamoto et al. (US Patent 5,346,926).

The disclosure of Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific wax to be used.

Sakamoto et al. disclose a mixture by mixing 100 parts by weight of LDPE, 30 parts by weight of HDPE, and 1 part by weight of polyethylene wax having an average molecular weight of 2800 to improve on compatibility of the mixture (Example 1). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the specific wax in the composition with the expected success.

8. Claims 6, 10, 24-30 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162) as applied to claims 1-2, 4, 7-9, 12-15, 17-19, 31, 37 and 41-43, in view of Van Dun et al. (US Patent 7,129,296).

The disclosure of Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the lower molecular weight polymer having a density of lower than 945 kg/m^3 .

Van Dun et al. disclose a polyethylene composition comprising a low molecular weight ethylene component having a density of greater than 0.940 g/cm^3 , and a high molecular weight ethylene component, to make multilayer film to be extrusion coated onto a plastic substrate, and further comprising LDPE, to provide a bimodal polyethylene composition that exhibits improved durability and environmental (tensile) stress cracking resistance (claims 1, 3, col. 1, line 56, col. 2, line 51, col. 6, lines 1-2 and 33-34, col. 18, lines 53, 57, 66, col. 19, line 4, col. 20, line 47). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the lower molecular weight polymer having a density of lower than 945 kg/m^3 in the composition with the expected success.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162).

The disclosure Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific amount of filler.

The relative amount of filler will determine the mechanical properties of the polymer composition. The case law has held that “a particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation”. *In re Antoine*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to achieve the relative amount of filler via the routine optimization process and thereby obtain the present invention.

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162) as applied to claims 1-2, 4, 7-9, 12-15, 17-19, 31, 37 and 41-43, in view of Myhre et al. (US 2006/0014897).

The disclosure Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific particle size of the filler.

Myhre et al. disclose a composition comprising a bimodal polyethylene composition and a particulate filler wherein the filler has an average particle size within the range of 0.1 to 4 μm to provide a bimodal polyethylene composition used for breathable films having an improved mechanical strength (claim 1, [0002], [0039]). In

light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the specific particle size of the filler in the composition with the expected success.

11. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162) as applied to claims 1-2, 4, 7-9, 12-15, 17-19, 31, 37 and 41-43, in view of Myhre et al. (US 2006/0014897).

The disclosure Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific amount of comonomer unit.

Myhre et al. disclose a composition comprising a bimodal polyethylene composition containing 0.6 mol % of 1-butene to provide a bimodal polyethylene composition used for breathable films having an improved mechanical strength (claim 1, [0002], Table 1). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the specific amount of comonomer in the composition with the expected success.

12. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162) as applied to claims 1-2, 4, 7-9, 12-15, 17-19, 31, 37 and 41-43, in view of Garoff et al. (US Patent 5,770,540).

The disclosure of Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

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However, Ahlstrand is silent on the specific process to be used.

Garoff et al. disclose a high activity procatalyst comprising an inorganic support, a chlorine compound carried on said support, a magnesium compound carried on said support, and a titanium compound carried on said support, wherein the chlorine compound is the same or different from the magnesium compound and/or the titanium compound to provide a catalyst with high activity for the production of ethylene polymers (claim 1, col. 2, lines 5-7). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the specific process to make the composition with the expected success.

13. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162) as applied to claims 1-2, 4, 7-9, 12-15, 17-19, 31, 37 and 41-43, in view of Casey et al. (US Patent 6,110,552).

The disclosure of Ahlstrand is adequately set forth in paragraph 5 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific film coating line to be used.

Casey et al. disclose a composite release liner comprising a paper substrate and a polymer base layer applied on the substrate by a film coating line comprising an unwind, a wind, a chill roll and a coating die to make the multilayer material (claim 1, col. 4, lines 32-43). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the specific process to make the composition with the expected success.

14. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162) as applied to claims 1-2, 4, 7-9, 12-15, 17-19, 31, 37 and 41-43, in view of Myhre et al. (US 2006/0014897).

The disclosure Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific film.

Myhre et al. disclose a composition comprising a bimodal polyethylene composition using a multi-stage polymerization process to provide a bimodal polyethylene composition used for breathable films such as cast film having an improved mechanical strength (claim 1, [0002], Example 2, [0080]). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the cast film using the composition with the expected success.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUI CHIN whose telephone number is (571)270-7350. The examiner can normally be reached on Monday to Friday; 8:00am - 5:00pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ling-Siu Choi/
Primary Examiner, Art Unit 1796

/HC/